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FIG.1
CONVENTIONAL ART

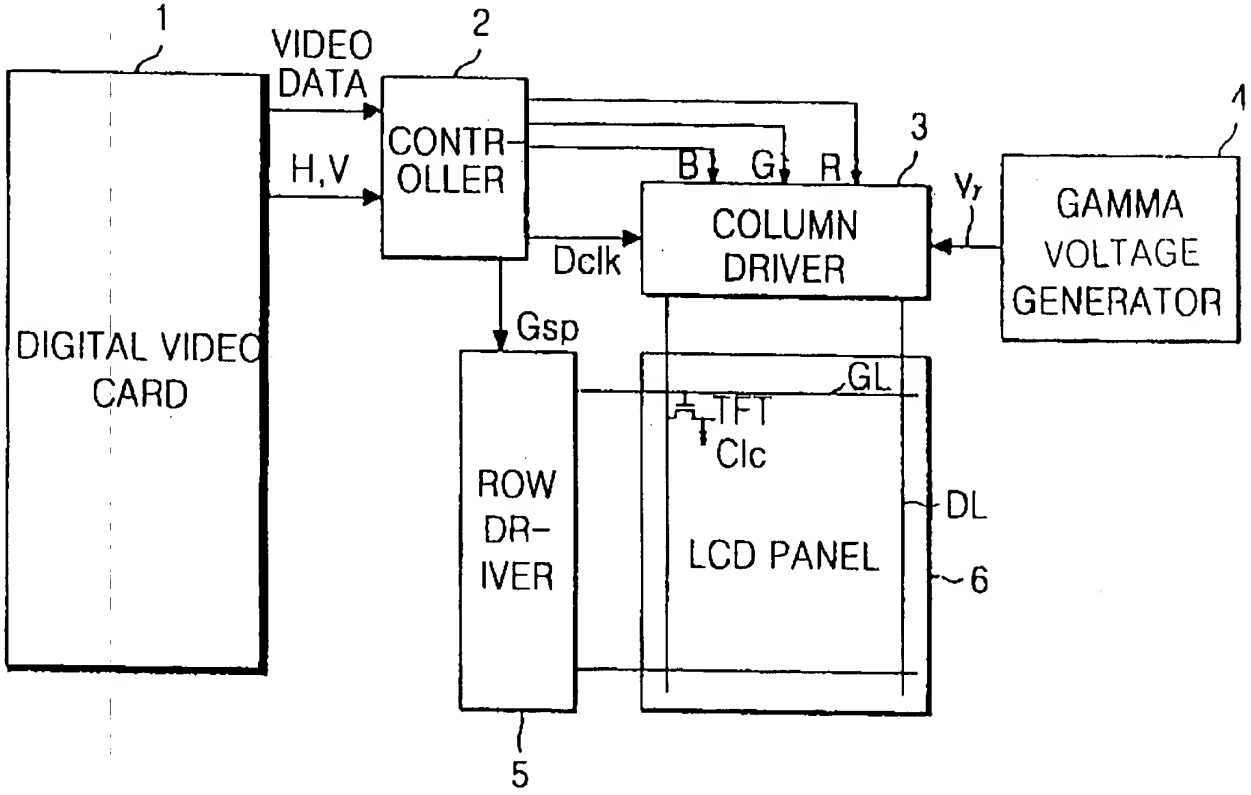

FIG.2
CONVENTIONAL ART

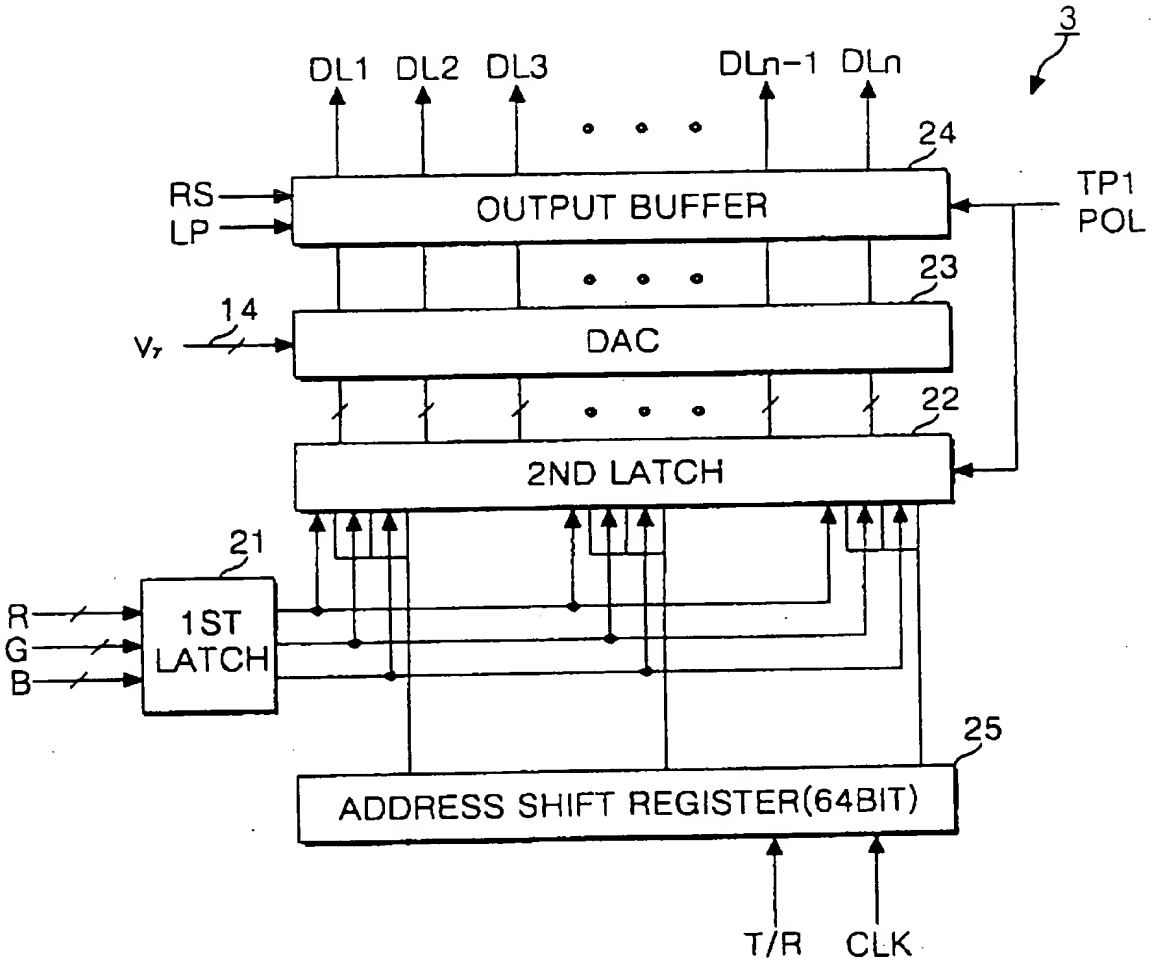

FIG.3
CONVENTIONAL ART

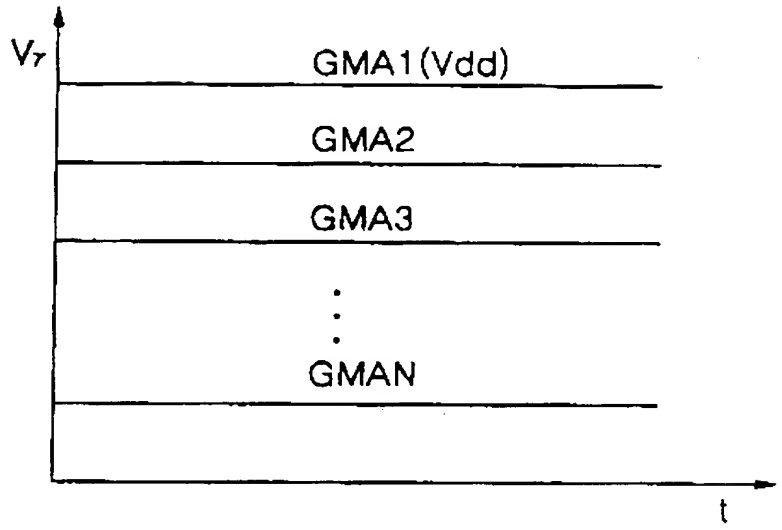

FIG. 4
CONVENTIONAL ART

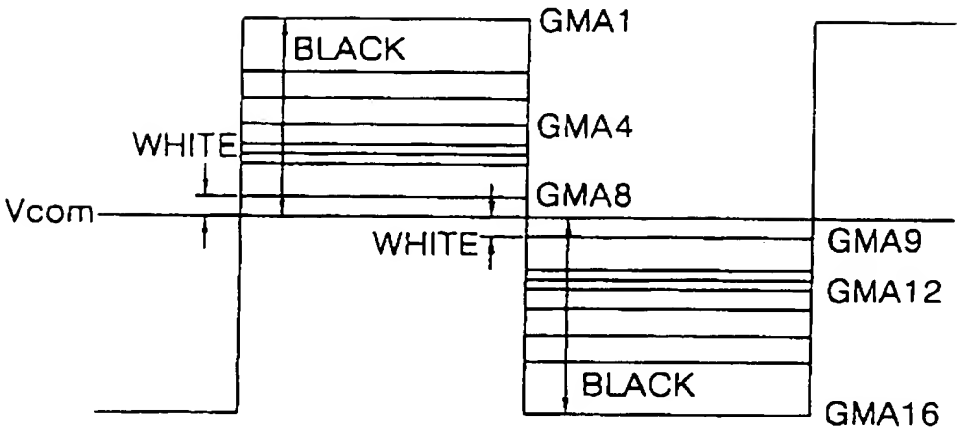

FIG.5
CONVENTIONAL ART

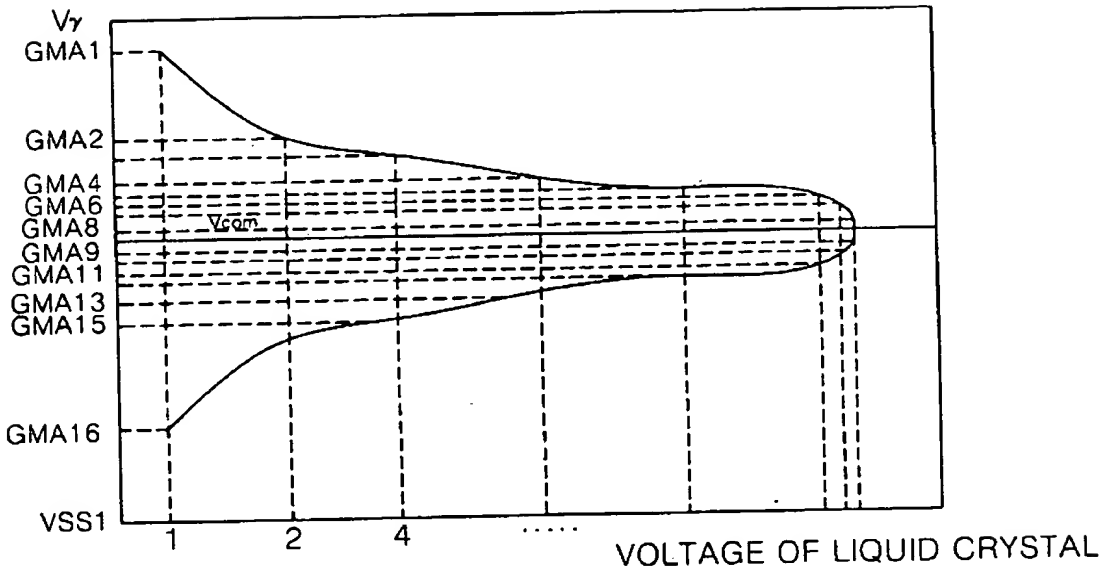

FIG.6
CONVENTIONAL ART

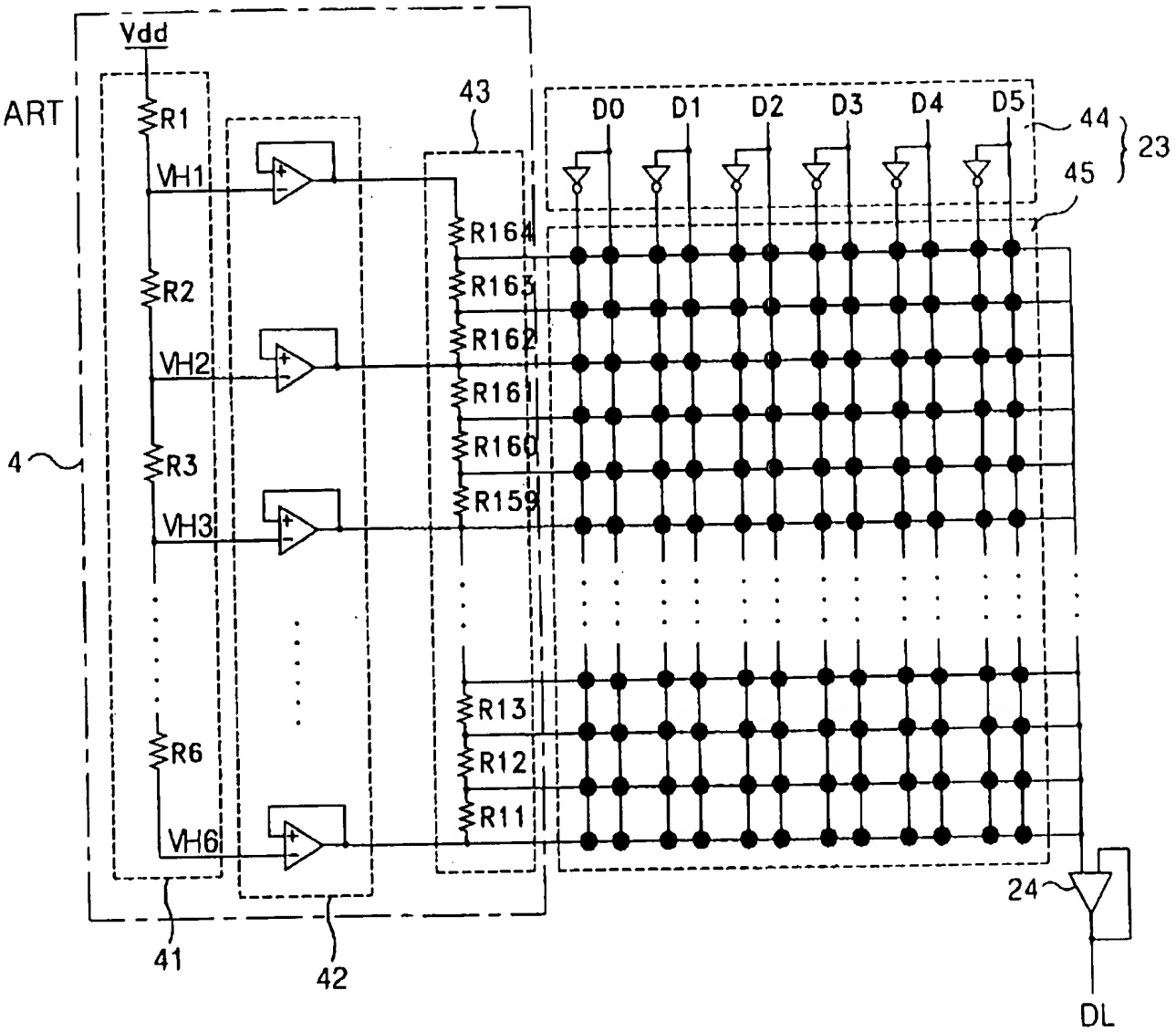

FIG. 7
CONVENTIONAL ART

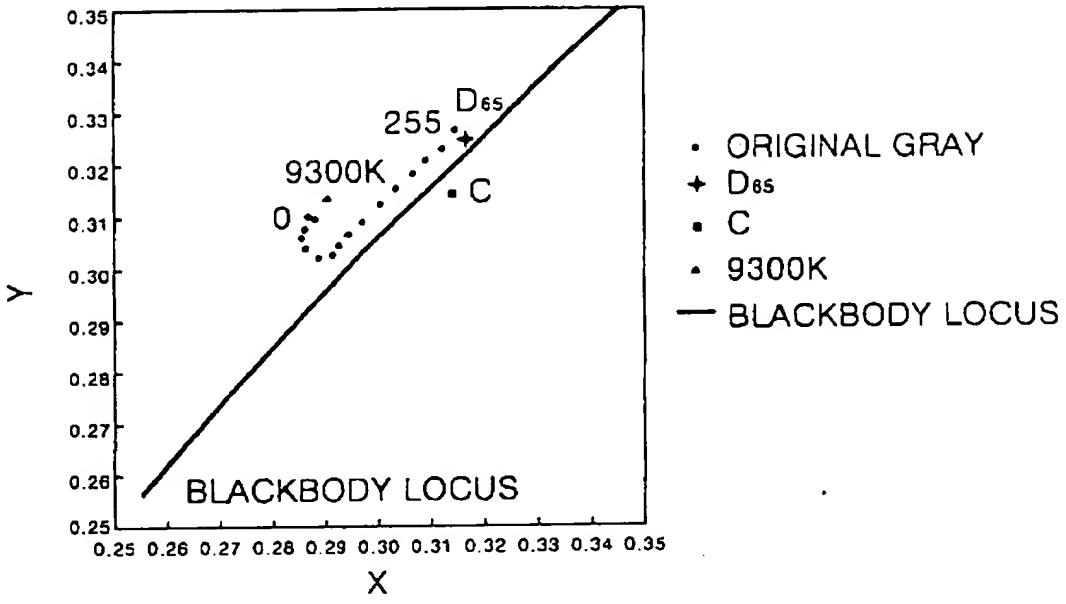

FIG.8

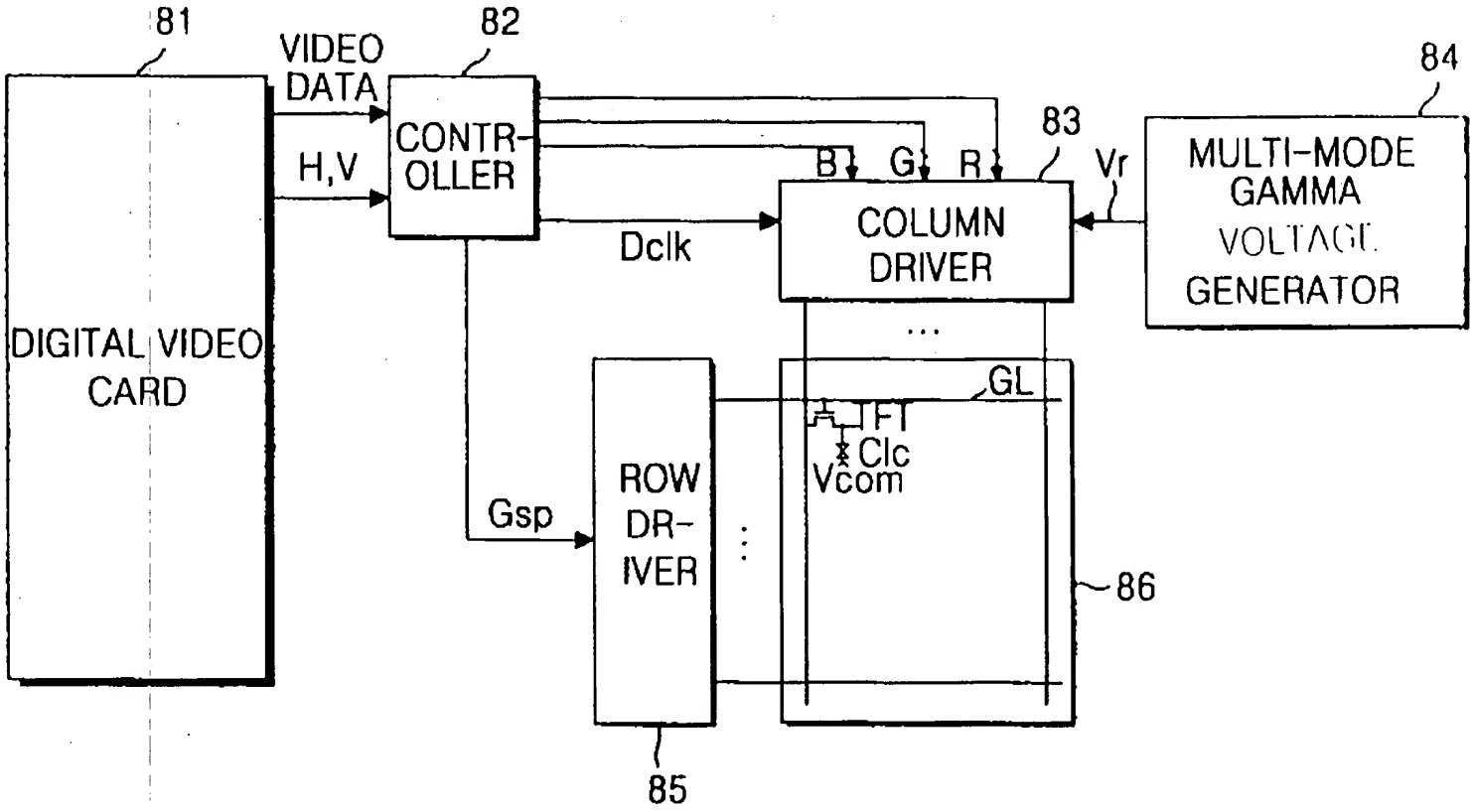
81
VIDEO DATA
H,V
82
CONTR-OLLER
B
G
R
83
Vr
84
MULTI-MODE GAMMA VOLTAGE GENERATOR
Dclk
COLUMN DRIVER
DIGITAL VIDEO CARD
GL
TFT
Clc
Vcom
Gsp
ROW DR-IVER
86
85

FIG.9

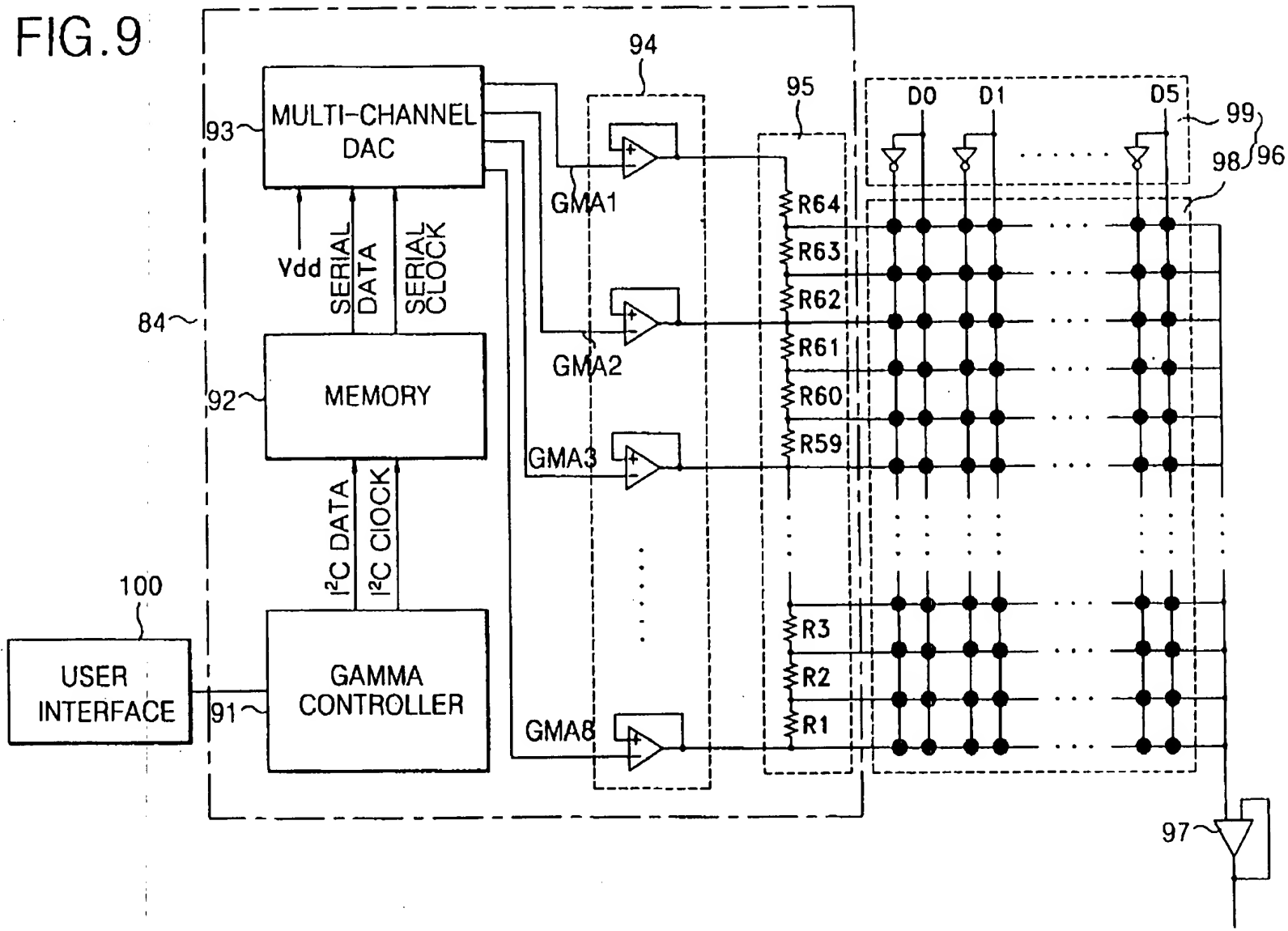
94
95
MULTI-CHANNEL DAC
93
Vdd
SERIAL DATA
SERIAL CLOCK
84
MEMORY
92
I²C DATA
I²C CLOCK
100
USER INTERFACE
GAMMA CONTROLLER
91
GMA1
GMA2
GMA3
GMA8
R64
R63
R62
R61
R60
R59
R3
R2
R1
D0
D1
D5
99
98
96
97

FIG.10

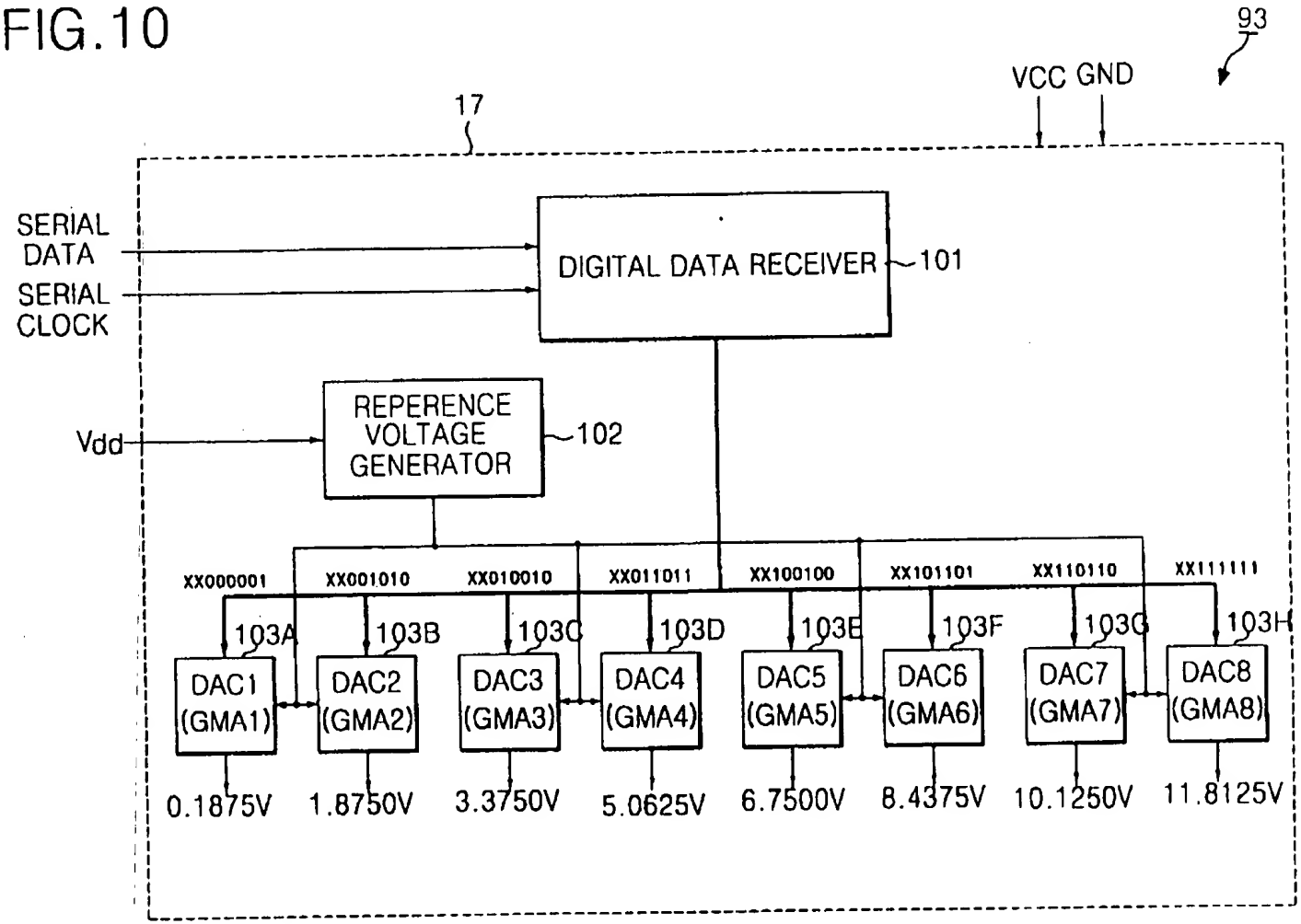
93
VCC GND
17
SERIAL DATA
SERIAL CLOCK
DIGITAL DATA RECEIVER
101
Vdd
REPERENCE VOLTAGE GENERATOR
102
XX000001
XX001010
XX010010
XX011011
XX100100
XX101101
XX110110
XX111111
103A
103B
103C
103D
103E
103F
103G
103H
DAC1 (GMA1)
DAC2 (GMA2)
DAC3 (GMA3)
DAC4 (GMA4)
DAC5 (GMA5)
DAC6 (GMA6)
DAC7 (GMA7)
DAC8 (GMA8)
0.1875V
1.8750V
3.3750V
5.0625V
6.7500V
8.4375V
10.1250V
11.8125V

FIG.11

S	A3 A2 A1 A0 SD SC SB SA	A	X X D5 D4 D3 D2 D1 D0

S=START CONDITION ,A3~A0=ADDRESS BIT, SC~SA=SUBADDRESS BIT
A=HEADER BIT, D5~D0=DATA BIT

FIG.12

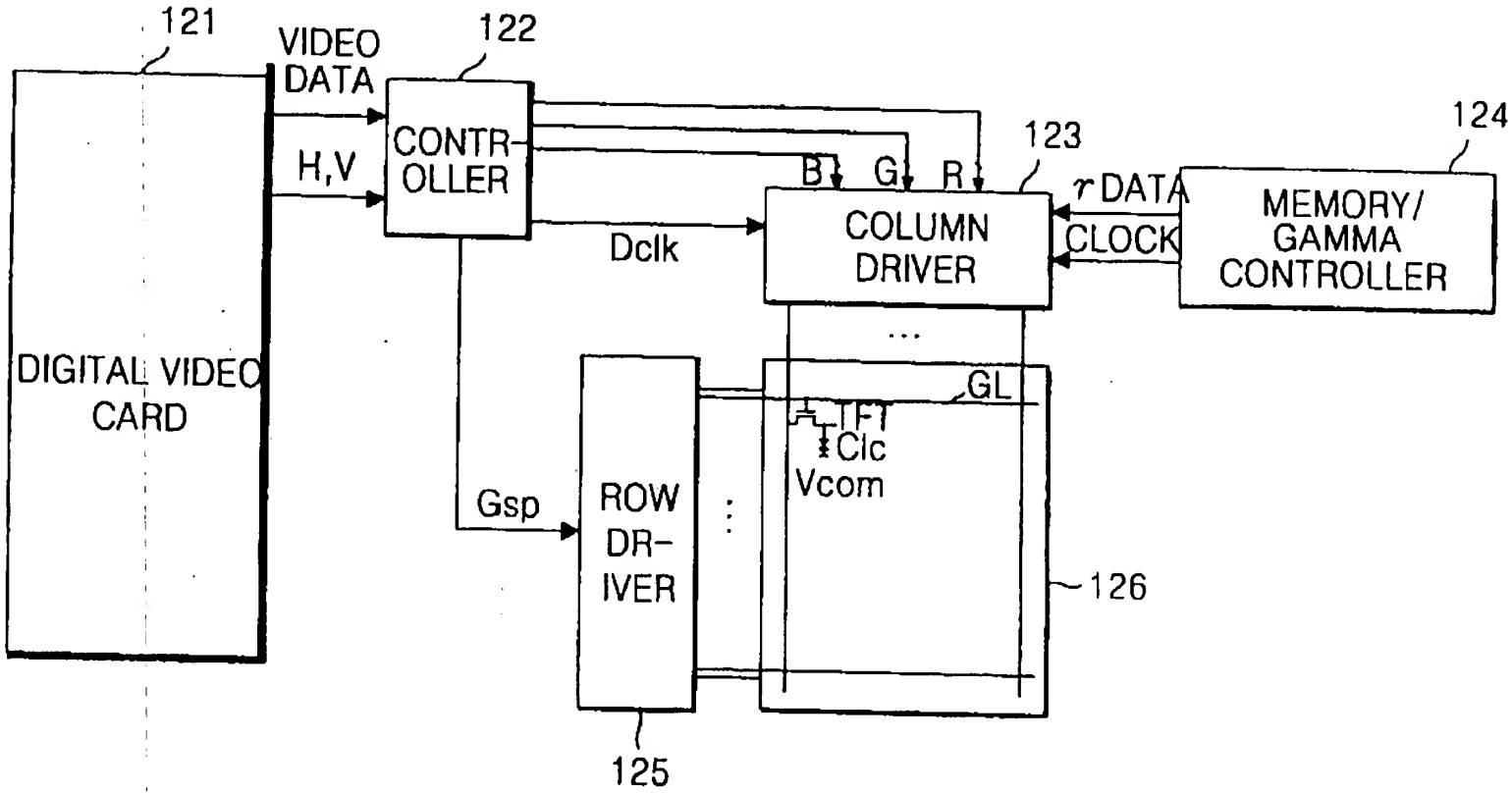
121
VIDEO DATA
122
H,V
CONTR-OLLER
B
G
R
123
124
rDATA
CLOCK
MEMORY/ GAMMA CONTROLLER
Dclk
COLUMN DRIVER
DIGITAL VIDEO CARD
GL
TFT
Clc
Vcom
Gsp
ROW DR-IVER
126
125

FIG.13

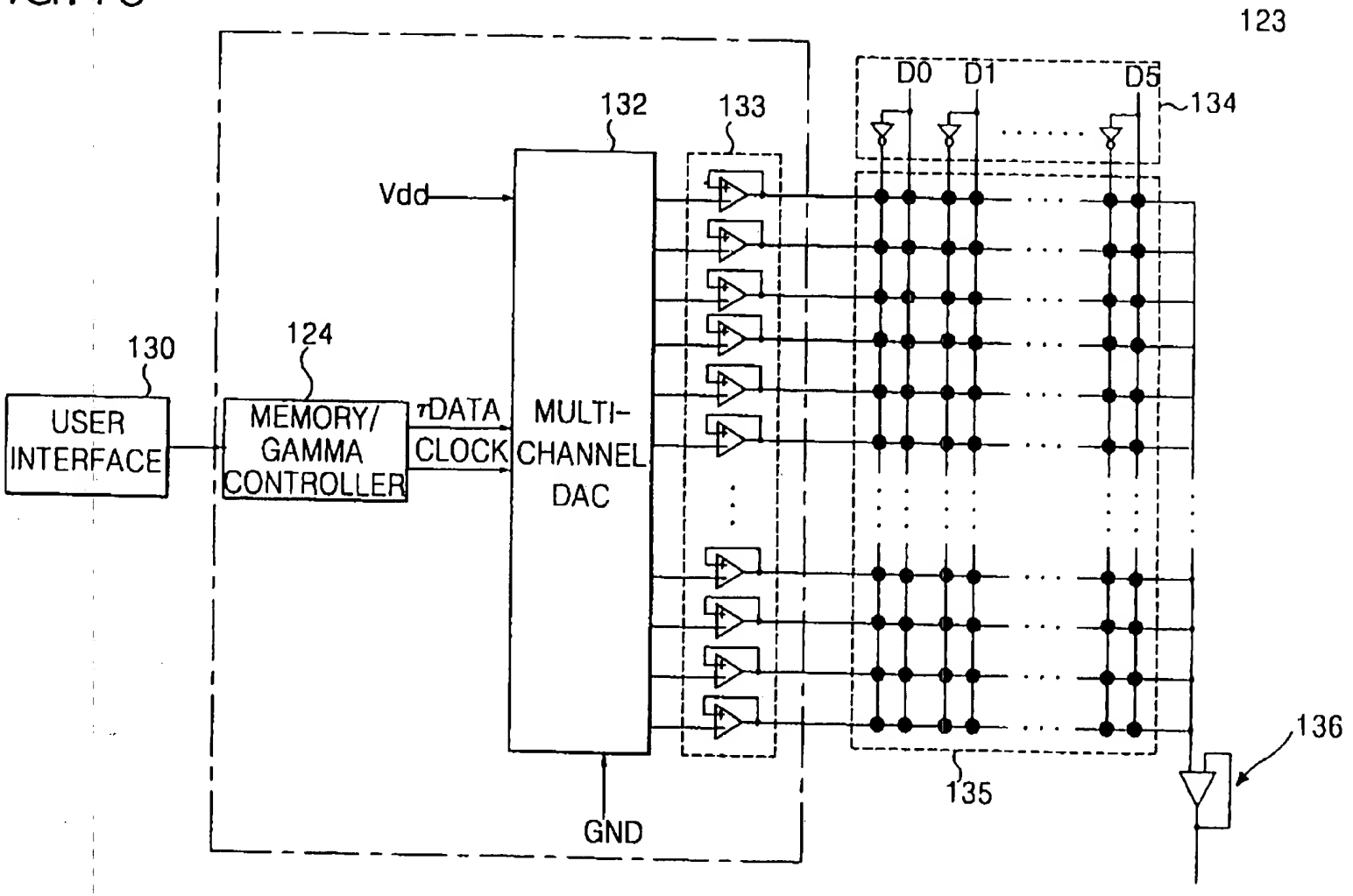
123
D0
D1
D5
134
132
133
Vdd
130
124
USER INTERFACE
MEMORY/ GAMMA CONTROLLER
nDATA
CLOCK
MULTI-CHANNEL DAC
136
135
GND

FIG.14

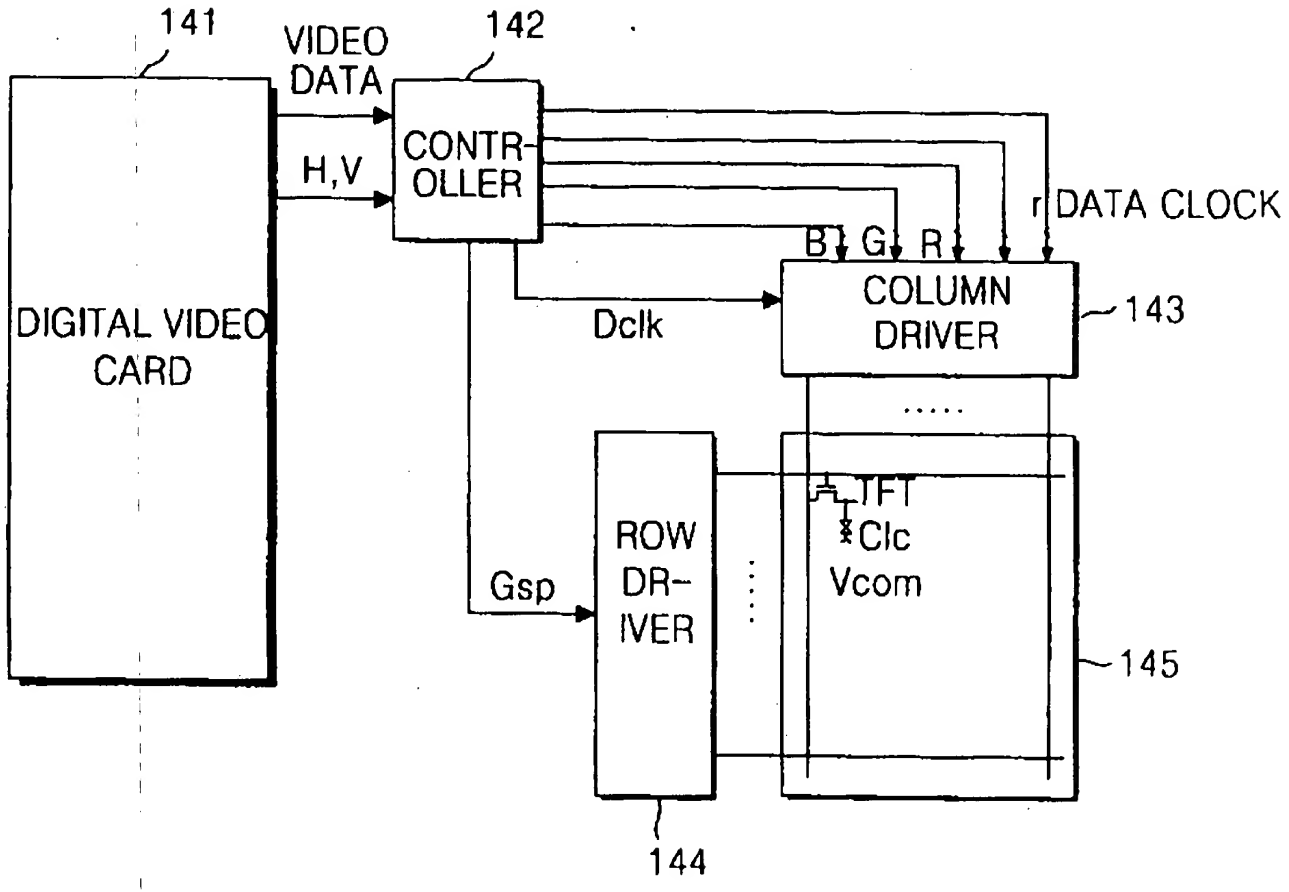
141
VIDEO DATA
142
H,V
CONTR-OLLER
DATA CLOCK
B G R
DIGITAL VIDEO CARD
Dclk
COLUMN DRIVER
143
.....
TFT
Clc
Vcom
Gsp
ROW DR-IVER
145
144

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FIG.15

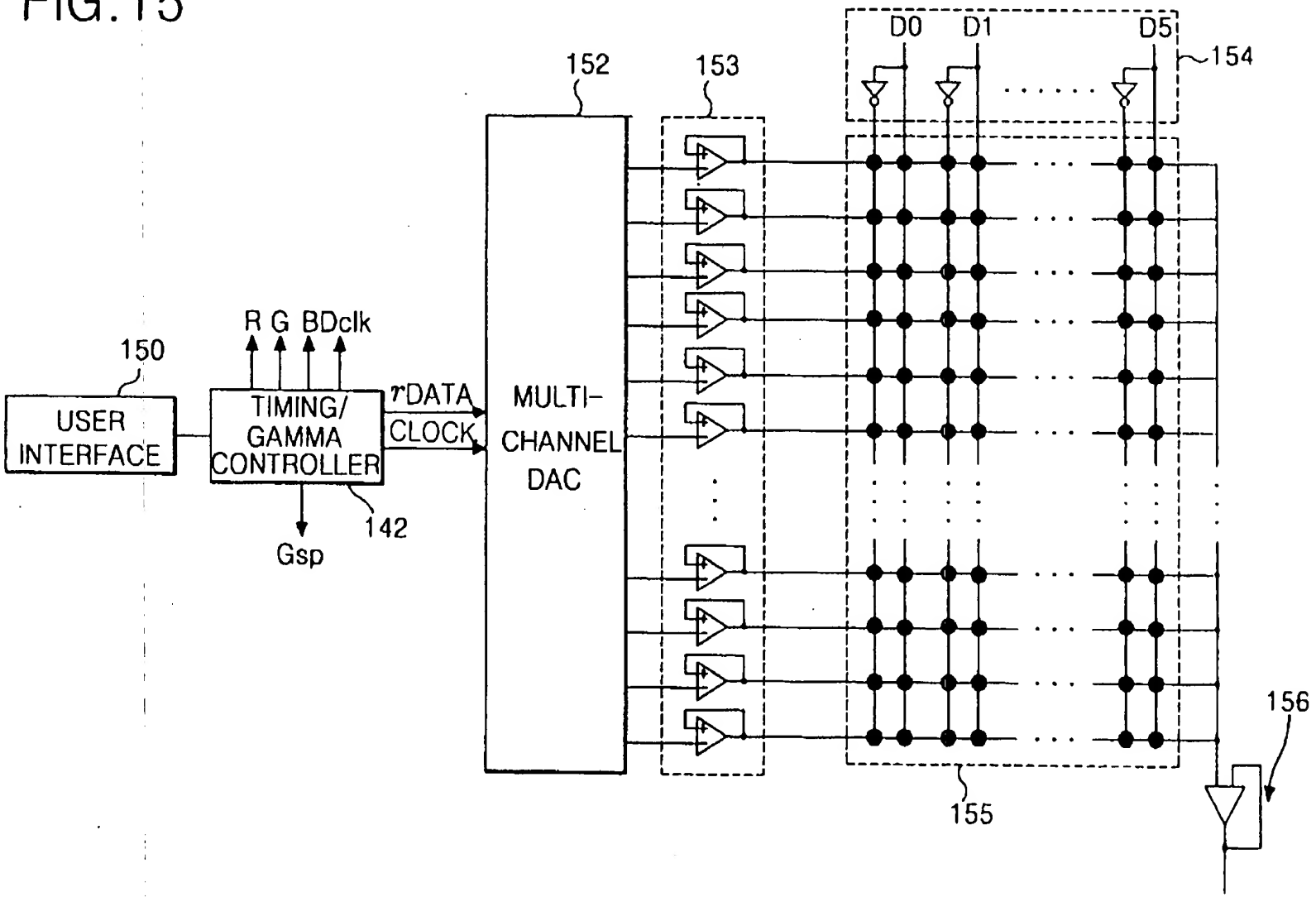


FIG.16

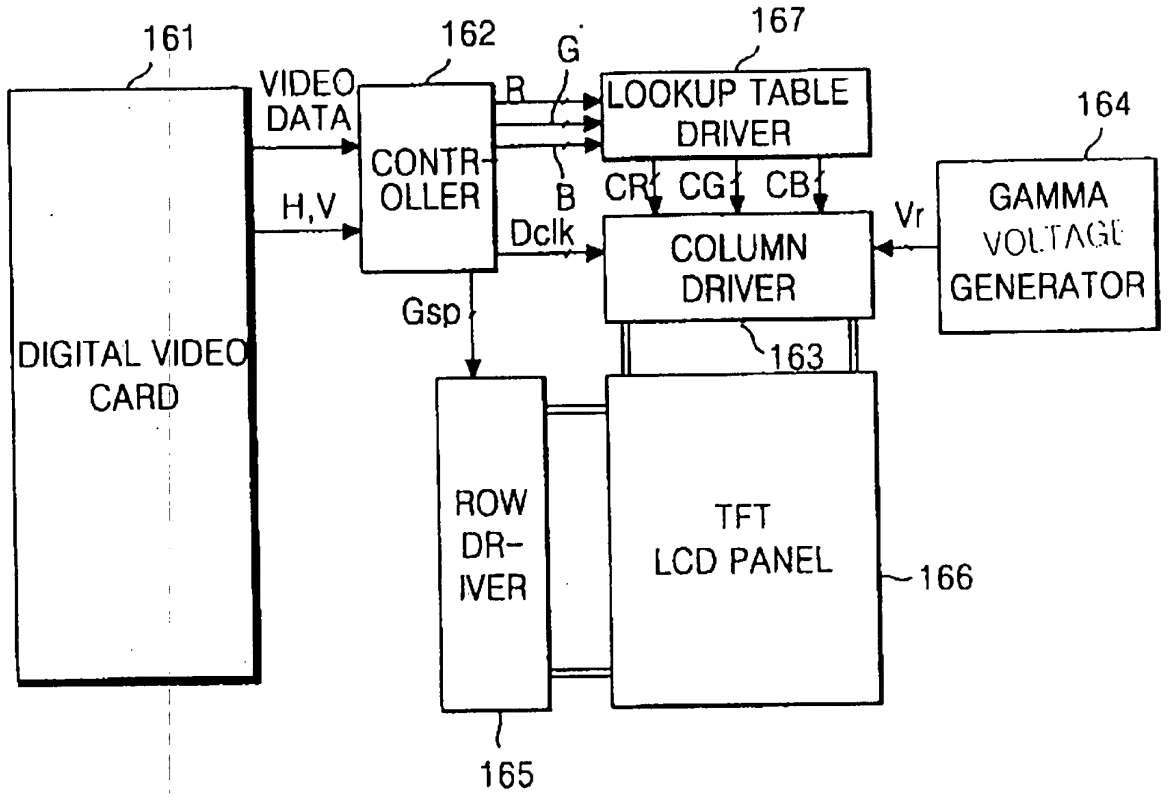

161
DIGITAL VIDEO CARD
VIDEO DATA
H,V
162
CONTR-OLLER
R
G
B
Dclk
Gsp
167
LOOKUP TABLE DRIVER
CR
CG
CB
164
GAMMA VOLTAGE GENERATOR
Vr
COLUMN DRIVER
163
ROW DR-IVER
TFT LCD PANEL
166
165

FIG.17

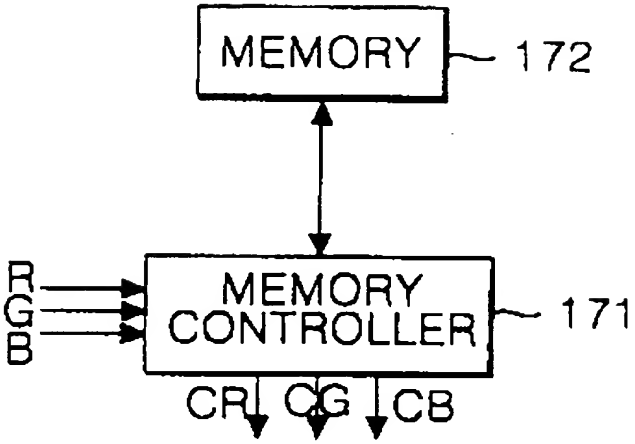


FIG.18

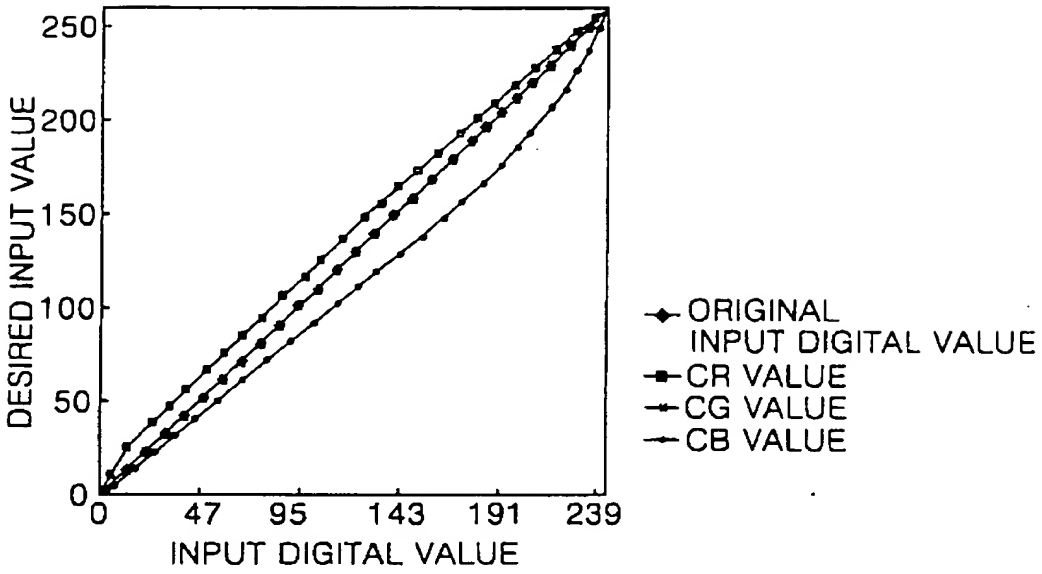

250
200
150
100
50
0
DESIRED INPUT VALUE
0
47
95
143
191
239
INPUT DIGITAL VALUE
ORIGINAL INPUT DIGITAL VALUE
CR VALUE
CG VALUE
CB VALUE

FIG.19

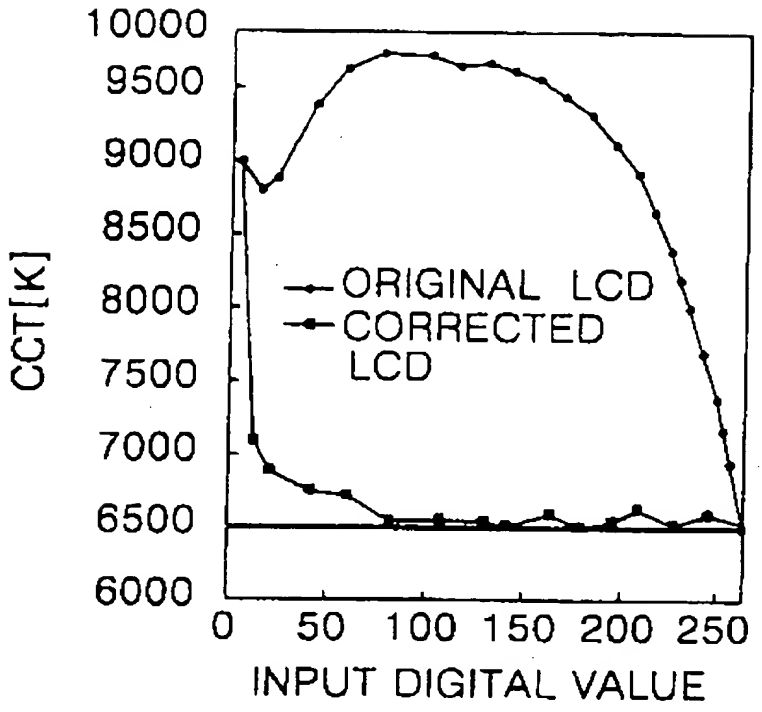

10000
9500
9000
8500
8000
7500
7000
6500
6000
CCT[K]
ORIGINAL LCD
CORRECTED LCD
0
50
100
150
200
250
INPUT DIGITAL VALUE

FIG.20

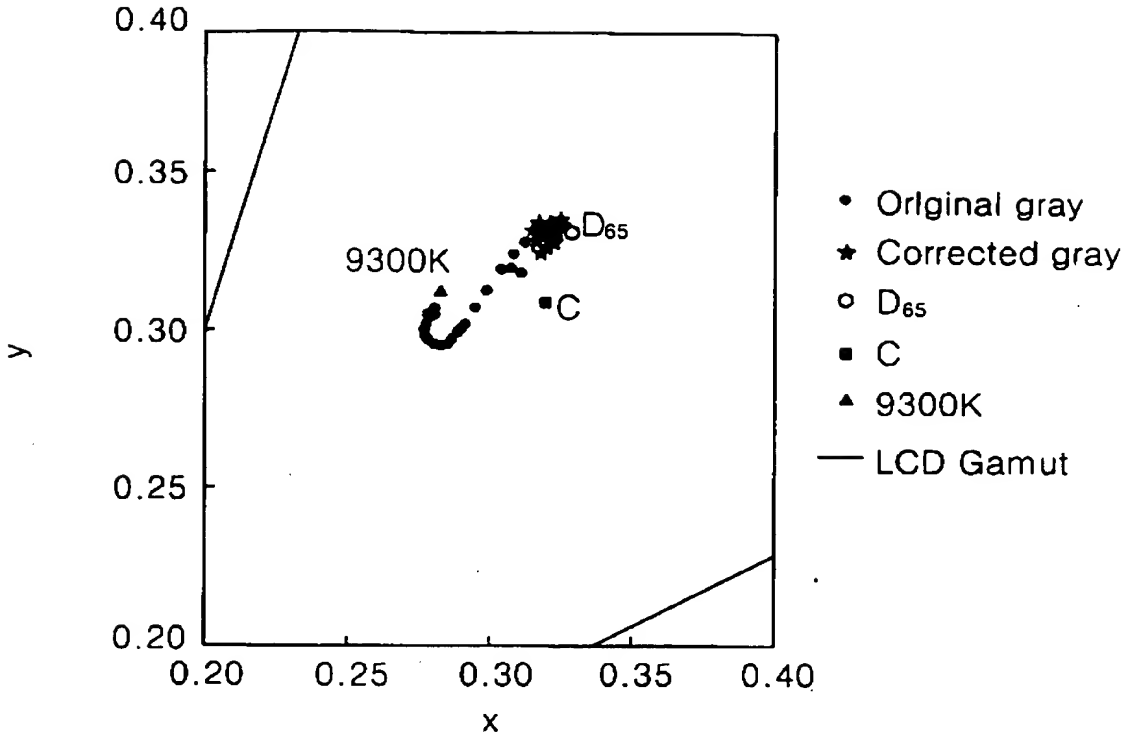
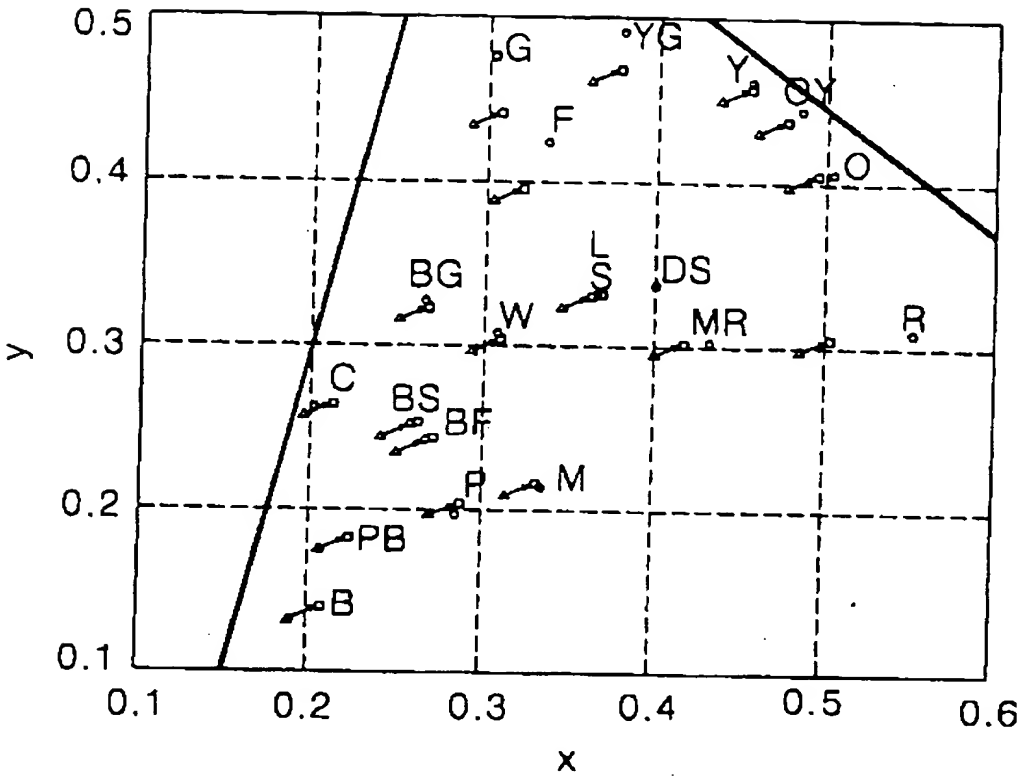

0.40
0.35
0.30
0.25
0.20
0.20
0.25
0.30
0.35
0.40
x
y
9300K
D65
C
Orlginal gray
Corrected gray
D65
C
9300K
LCD Gamut

FIG.21



- CHROMINANCE CO-ORDINATES OF INPUT IMAGE
- CHROMINANCE CO-ORDINATES OF LCD DISPLAY IMAGE
- CHROMINANCE CO-ORDINATES CORRECTED BY LOOKUP TABLE